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DEPARTMENT OF THE ARMY  
OFFICE OF THE ADJUTANT GENERAL  
WASHINGTON, D.C. 20310



IN REPLY REFER TO

AGAM-P (M) (2 May 68) FOR OT RD 681235

9 May 1968

SUBJECT: Operational Report - Lessons Learned, Headquarters, 1st  
Aviation Brigade, Period Ending 31 January 1968 (U)

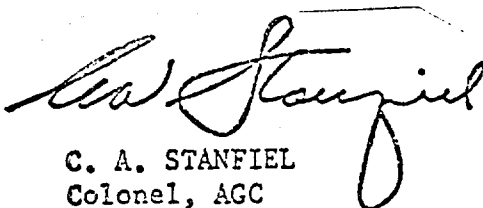
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2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

  
C. A. STANFIELD  
Colonel, AGC  
Acting The Adjutant General

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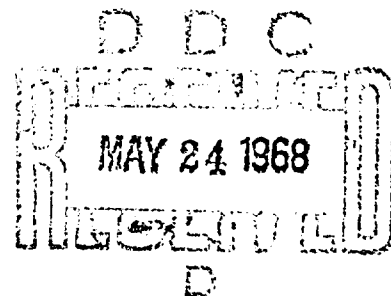
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DEPARTMENT OF THE ARMY  
HEADQUARTERS 1ST AVIATION BRIGADE  
APO San Francisco 96364  
"HOGY-HIEH"

AVEA-C

15 February 1968

SUBJECT: Operational Report-Lessons Learned for Period Ending  
31 January 1968 (RCB CSFOR-65) UIC WDG 3A1 (U)

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## SECTION I

## SIGNIFICANT EVENTS

## A. COMMAND:

1. (U) On 9 November 1967 Col Jack W Hemingway, 035554 replaced Col Daniel G Gust, 036330 as Deputy Brigade Commander. Col Gust was re-assigned as Commanding Officer, Falcon Combat Aviation Group (Provisional).

2. (U) On 9 November 1967 Col Eugene D Conrad, 034204 was assigned as Deputy Brigade Commander for Administration.

3. (U) During the reporting period the Brigade organization and chain of command changed substantially. By 31 January 1968 the Brigade commanded four Combat Aviation Groups, one in each ARVN Corps Tactical Zone. All former separate Battalions were concurrently assigned to one of the Groups. These major command changes occurred as follows:

Effective Date	Action	Authority
20 Dec 1967	164th CAG assigned to 1st Avn Bde with Headquarters in Can Tho, IV ARVN Corps Tactical Zone. Opon to Senior Advisor, IV ARVN Corps.	USARV GO 6642, dtd 20 Dec 1967.
20 Dec 1967	16th CAG assigned to 1st Avn Bde with Headquarters in Da Nang, I ARVN Corps Tactical Zone. Opon to CG, III MAF.	USARV GO 6642, dtd 20 Dec 1967.
20 Dec 1967	13th CAG, formerly a separate Battalion operating directly under Bde Hq, assigned to 164th CAG.	1st Avn Bde GO 213, dtd 15 Jan 1968.

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Effective Date	Action	Authority
15 Jan 1968	210th CAB, formerly a separate Battalion operating directly under Pde Hq, assigned to 12th CIG.	1st Ltn Ede GO 115, dtd 10 Jan 1968

At the end of the reporting period the organization and location of major units were as shown in the organization chart at Incl 1 and the station list at Incl 2.

4. (U) During the reporting period, Commander's Notes 17 and 18 and Tactical Lessons Learned No 6 were published. See Inclosures 3, 4, and 5.

## B. PERSONNEL, MORALE AND DISCIPLINE:

1. (FOUO) Strength as of quarter's end, 31 January 1968, was as follows:

	<u>ACTUAL</u>	<u>ACCOUNTABLE STRENGTH ASC</u>	<u>OPERATING STRENGTH PED</u>
OFF	1,826	1,684	1,663
WO	2,666	2,179	2,177
EM	20,967	20,418	19,254
TOTAL	25,461	24,281	23,114

2. (C) Brigade Enlisted strength decreased from an overstrength of forty-one (41) to a shortage of three hundred and ninety-seven (397) during the reporting period.

3. (FOUO) The Brigade remains short in all aircraft maintenance MOSs. This is partially due to new units arriving in-country short maintenance personnel. Also, the current input of enlisted maintenance MOSs is not sufficient to offset normal losses.

4. (U) The number of recommendations for awards (Purple Heart and higher) received during the period 1 November 1967 through 31 January 1968 are shown by type, with totals for the period and monthly averages:

<u>AWARD</u>	<u>TOTAL FOR PERIOD</u>	<u>MONTHLY AVERAGE</u>
IM & DSC	36	12
SS	70	23
SM	55	18
DFC	419	139
AM	11,252	3,417

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<u>AWARD</u>	<u>TOTAL FOR PERIOD</u>	<u>MONTHLY AVERAGE</u>
BS	533	177
FM	168	62
ACM	636	212
BS "V"	67	22
AM "V"	512	170
ACM "V"	135	44
TOTAL	13,903	4,296

C. INTELLIGENCE:

1. (FOUO) During the period 1 November 1967 to 31 January 1968 the S-2 Section concentrated on Escape and Evasion Training, personnel security investigations, personnel security orientations and investigations of security violations.

2. (FOUO) During the period sixty-seven (67) students were sent to Jungle Survival School.

3. (FOUO) The following personnel security investigations and actions were processed through this headquarters during the reporting period:

- a. Verification of BI - 140
- b. Verification of NAC - 133
- c. Request for NAC - 74
- d. Request for BI - 16

4. (FOUO) Personnel Security Orientations:

a. In addition to the normal orientation of incoming Brigade personnel, the S-2 section conducted two (2) security instruction classes for members of Hq and Hq Co, 1st Avn Bde.

b. Two (2) after hours security inspections of Brigade Headquarters were conducted during the reporting period. No significant security violations were discovered.

c. An announced security inspection was made by the 702nd MI Det. No serious deficiencies were discovered and all minor deficiencies were immediately corrected.

d. A counterintelligence technical survey of the building housing the Command Group was requested by the S-2 and conducted by the 525th MI Group. All survey results were favorable.

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## D. PLANS, OPERATIONS AND TRAINING:

1. (FOUO) A total of two combat aviation groups, two combat aviation battalions, five aviation companies, one signal company (hyperbolic navigation) and nine detachments were added to the strength of the 1st Aviation Brigade during this quarter.

a. The following units arrived in Vietnam as indicated:

<u>DATE</u>	<u>UNIT</u>	<u>USARV GO NUMBER/DATE</u>
21 Nov 67	61 IHC	6088 24 Nov 67
	922 Sig Det	6088 24 Nov 67
	616 Maint Det	6088 24 Nov 67
23 Nov 67	154 IHC	6088 24 Nov 67
	832 Sig Det	6088 24 Nov 67
	618 Maint Det	6088 24 Nov 67
25 Nov 67	92 IHC	6088 24 Nov 67
	732 Sig Det	6088 24 Nov 67
	617 Maint Det	6088 24 Nov 67
1 Dec 67	16 Sig Co (Hyp Nav)	6346 8 Dec 67
15 Dec 67	273 Heavy Helicopter Company (-)	6498 18 Dec 67
	652 Maint Det	6498 18 Dec 67
13 Jan 68	355 Heavy Helicopter Company (-)	6656 28 Dec 67
	622 Maint Det	6656 28 Dec 67
	58 Avn Det (Spt)	6656 28 Dec 67

b. The following units were activated in Vietnam as indicated:

<u>DATE</u>	<u>UNIT</u>	<u>USARV GO NUMBER/DATE</u>
20 Dec 67	16 CAG (Previously Falcon CAG Provisional)	6642 28 Dec 67
	164 CAG	6642 28 Dec 67
	307 CAG (Previously Phantom CAG Provisional)	6642 28 Dec 67
	308 CAG	6642 28 Dec 67

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2. (U) Monitoring of CH-47 dropped load reports and cargo movements activities indicated a need to reemphasize procedures for load preparation, loading procedures and general aircraft utilization and employment. Correspondence was forwarded through channels to educate ground units in the following areas:

a. Care, utilization and employment of slingload rigging equipment.

b. Selection of LZs and PZs.

c. Appropriate channels for requesting information regarding training assistance on slingload rigging procedures.

3. (U) A proposed MTOE for Headquarters and Headquarters Company, 1st Aviation Brigade was forwarded to USARV on 31 January 1968. When approved this new MTOE will double the unit strength to 236 spaces. This personnel increase would permit Brigade Headquarters to exercise complete administrative and logistical control over the assigned Combat Aviation Groups.

4. (U) Effective 1 February 1968, the FORSTAT reporting system was implemented throughout the Brigade. A series of detailed briefings, down to Battalion level, was extremely successful and eliminated the confusion normally inherent in a new report.

5. (U) Increased enemy activities during the last days of the reporting period were significant. However, they will be discussed in the next report which will treat the enemy TET offensive as one entity.

6. (U) Flight Status Orders:

a. During the quarter ending 31 January 1968, the Flight Status Orders Section received and processed 3,500 requests for flight status orders, changes to existing orders and changes to flight status positions.

b. A new 1st Aviation Brigade Regulation 600-1, was published and distributed on 1 January 1968. This regulation governs requests for flight status orders.

7. (U) Training:

a. VNAF Training: UH-1D transition training of VNAF personnel continued throughout the reporting period with a class of 15 students graduating on 9 Dec 67. A new class of 15 students commenced training on 15 Dec 67 and is scheduled to graduate on 15 March 1968. No major problems have been encountered and the program continues to run as scheduled.



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b. Royal Thai Army Aviation Training: The first 40 man contingent of Royal Thai Army Aviation personnel (13 officers, 27 EM) arrived in Vietnam on 28 Nov 67. The officers were transitioned into UH-1D aircraft and assigned to assault helicopter companies for operational training. Enlisted mechanics were also given UH-1 organizational maintenance training and experience. The present class is to graduate late in March 1968. No major problems have been encountered and the program continues to run as scheduled.

c. New Equipment Training Teams (NETT) continued to function during this reporting period. Students were trained and graduated from courses as indicated:

<u>COURSE</u>	<u>U-21</u>	<u>AH-1G</u>	<u>OH-6A</u>
Aviator Transition	104	69	20
Airframe Maintenance	113	26	104
Engine Maintenance	67	38	79
Armament Maintenance		63	
SAS Avionics Maintenance		37	

#### E. LOGISTICS:

1. During the reporting period the Brigade GMI Team standardized operations and commenced inspections on a scheduled basis of two to three inspections per month. The Team consists of a Major, Team Chief, six enlisted inspectors and either an Officer or NCO medical inspector. The Team stays four days in each location in order to inspect two companies and their attachments. Personnel for the GMI Team continue to be detailed from subordinate units for each inspection.

2. (U) Distribution of UH-1 gunner seat armor has been made, equipping all "gun-ships" in the Brigade. Tests have shown these seats provide protection against cal .30 and 7.62mm ball and armor piercing rounds at ranges in excess of 100 yards.

3. (U) Hq, USARV has put emphasis on the return of unneeded CONEX containers to transportation channels. Stocks of CONEX containers in COMUS are critically low and future procurement has not been programmed. Brigade units have been instructed to submit CONEX inventories to this headquarters with justification for these CONEX containers to be retained.

#### F. INFORMATION:

1. (U) During the reporting period photographic equipment FA-383 (accessories for a photo lab) and Camera Equipment PH-104 (Speed Graphic Camera 4X5 with accessories) were acquired to fill photographic requirements for brigade headquarters awards presentations and chain of command photos. Two enlisted men in the office successfully received OJT at the 221st Signal Battalion in the use of the camera.

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2. (U) Efforts to start a five minute radio program "Golden Hawk Highlights" have been hampered by a defective tape recorder and the lack of adequate sound room facilities. Personal cassette recorders are being used until repairs can be made or other suitable recorders can be obtained through supply and/or non-appropriated fund channels. Sound room facilities located at the USARV-IO and American Forces Vietnam Radio (AFVR) Station are being utilized until similar facilities can be built at this headquarters. A pilot program is now under review by the AFVR prior to submission to the Deputy Brigade Commander for approval

3. (U) Two IO conferences were held during the reporting period. As a result of these meetings a 15% increase in stories has been noted and hometown news releases have increased by approximately 1,000 over the previous reporting period.

G. SIGNAL:

1. (U) Growth of the 1st Aviation Brigade has necessitated the expansion of the sole user teletype network. USARV has approved all teletype circuits requested and these circuits are either installed or programmed for installation from Brigade to all Groups and from each Group to all subordinate battalions with the exception of units collocated on the same installation.

2. (U) 21 of the 40 authorized Command Communication Facilities. AN/MRC-119 have been received by the Brigade. These radio-teletypewriter sets have provisions for HF, UHF and FM communications. As these radios arrive Group Hq assigns them to the AHCs at the more remote locations. Although TOE and MTOE show Radio Teletypewriter Sets AN/VSC-2 authorized to all Brigade units, the AN/MRC-119 is issued in lieu of the AN/VSC-2 in Assault Helicopter Companies.

3. (U) The additional distribution of the Radio Teletypewriter Sets AN/VSC-2 to units within the Brigade has strengthened the high frequency radio net. The Brigade Headquarters now has radio communications from Can Tho in the South (16th CAG) to Da Nang in the North (16th CAG) as well as the Combat Aviation Groups and Battalions in between. The use of the Telephone patch with the high frequency radios has enabled staff personnel to talk directly to Brigade units when regular telephone circuits are not adequate.

4. (U) The publication of Technical Manuals, particularly the "P" manuals, continues to lag far behind the deployment of the equipment they support. For example the latest electronics configuration parts manuals for the UH-1 Helicopter are TM 11-1520-207-20P and 35P both dated 17 May 1965. Neither of these manuals provides information for any UH-1 after serial number 63-13002.

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#### H. SURGEON:

1. (U) During this report period, medical coverage was provided to approximately 26,000 Army personnel, of whom about 8,000 were on flight status. However, a 25% shortage of senior enlisted medical personnel caused support to be less than optimal.

2. (U) With the activation of the 16th and the 164th Combat Aviation Groups no change in the allocation of medical support was made. The 134th, 519th, 534th and 759th Medical Detachments (OL) remained at their respective stations to support units of the 16th CAG while the 41st, 83rd and 774th Medical Detachments (CA) support units of the 164th CAG.

3. (U) Reports from the field concerning the fragmentation helmet (AFH-1) indicate several instances in which the helmet undoubtedly saved a crewmember's life. However, at least one case of a fatal penetration of the helmet was reported.

4. (U) Letters of instruction were sent on the following subjects: Forms for Aeromedical Disposition, Jungle Boot Evaluation, Army Medical Services Report and Application for Aeronautical Designation of Flight Surgeons. Additionally, the Group Surgeons were sent instructions on the sanitation responsibilities of Pacific Architects and Engineers. A survey of flight surgeons to determine the feasibility of issuing morphine to aviators was completed.

#### I. SAFETY:

1. (U) The aircraft accident rate of the 1st Aviation Brigade reflected a favorable downward trend during the reporting period. The rate of aircraft accidents per 100,000 flying hours has decreased from 38.1 to the present level of 23.8. This considerable reduction is considered the result of increased command emphasis at all levels and a concentrated effort on the part of all flying personnel to reduce accidents to an absolute minimum.

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31 January 1968 (RCS CSFOR-65) UIC WDG 3AA (U)

## SECTION II

### PART I

#### OBSERVATIONS (LESSONS LEARNED)

- A. PERSONNEL: NONE
- B. OPERATIONS: NONE
- C. TRAINING AND ORGANIZATION: NONE
- D. INTELLIGENCE: NONE
- E. LOGISTICS:

- 1. (U) Item: M-134, Mini-Gun failures.

Discussion: An analysis of several failures of the M-134, Mini-gun indicated the rotor had not been heat-treated properly. An inspection team has been checking all mini-gun rotors in-country for cracks and hardness and defective rotors have been replaced.

Observation: Defective M-134, Mini-gun rotors are in the system and continued vigilance is required to detect and replace these items.

- 2. (U) Item: M-134, Mini-Gun lubrication.

Discussion: Service tests conducted on the use of lubricating oil semi-fluid with teflon (LSA-T), FSN 9150-949-0323, revealed a substantial increase in the maintainability of the M-134 Mini-gun. As the supply increases, 1st Aviation Brigade units are changing to LSA-T for lubricating all Mini-guns.

Observation: Lubricating Oil semi-fluid with teflon (LSA-T), FSN 9150-949-0323 is the most suitable lubricant for the M-134 Mini-gun.

#### F. SIGNAL:

- 1. (U) Item: Key Lists for Speech Security Equipment KY-28.

Discussion: A limited number of KY-28's are being received by Brigade units for aircraft installation. The KY-28 will allow secure FM voice communication between air to air and air to ground. As the situation has developed to date, Divisions and Corps are issuing different key lists for specific operational areas.

Observation: Direct support units such as the 1st Aviation Brigade continuously cross Division and Corps boundaries. If one code is set up for one specific area, the aircraft will not be able to communicate

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in the secure mode unless additional key lists and keying devices are carried on board, a dangerous security practice.

2. (U) Item: Maintenance of Radio Teletypewriter Set AN/VSC-2.

Discussion: There have been excessive numbers of Radio Sets AN/VSC-2 deadlined for maintenance. 1st Logistical Command repair facilities have experienced both a lack of repair parts and skilled personnel trained to repair a relatively new item of equipment.

Observation: The current dispersion of Brigade units has made high frequency radios a virtual necessity. Loss of these radios places headquarters out of communication with subordinate units in areas where other means of communication are not available.

3. (U) Item: Equipment Shortages in Avionics Maintenance Activities.

Discussion: Avionics Maintenance Detachments, (RL Teams TOE 11-500D) and Transportation Detachments (AR Teams, TOE 55-510T) continue to arrive in-country short required test equipment, shop facilities and maintenance float items. They are also arriving in-country with test equipment not required. Some items of test equipment can be obtained thru in-country resources; however, many units still lack important test equipment as long as one year after their arrival.

Observation:

a. Deploying units continue to arrive in-country short of essential test equipment, shop facilities and maintenance float.

b. Avionics Maintenance Detachment TOEs contain items of test equipment and tools that are often not required.

4. (U) Item: Varied organization of Avionics Maintenance Detachments (RL Teams, TOE 11-500D).

Discussion: TOE's for Avionics Maintenance Detachments having an identical mission, are not standardized, for example, RL Teams supporting UH-1 units are organized under TOE 11-500D with any one of several changes and a multitude of different modifications made by general orders.

Observation: Avionics Maintenance Detachments TOEs are not standard although there is no requirement for this wide a variance. MTOEs have been submitted by this Hq to alleviate this situation.

5. (U) Item: KY-28 Voice Security Equipment.

Discussion: Aircraft without KY-28 Voice Security Equipment must either broadcast in the clear or sacrifice time to code and decode

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radio messages. Time is not always available to utilize manual encoding methods.

Observation: Issue of the KY-28 voice security equipment will materially enhance communication security within this command.

6. (U) Item: Deployment of equipment to RVN without provisions for repair parts and test equipment.

Discussion: New equipment continues to arrive in RVN without repair parts and test equipment (i.e., ARC-131 FM Transceiver).

Observation: For successful operation, repair parts and test equipment must be deployed prior to or concurrently with deployment of new systems.

7. (U) Item: Publication of Technical Manuals lags behind deployment of equipment.

Discussion: Lack of current technical and parts manuals inhibit the prompt performance of maintenance. This problem recently occurred with the Automatic Flight Control System, AN/ASW-29 for the CH-54.

Observation: Current technical and parts manuals must be introduced into the system concurrent with the equipment they support.

8. (U) Item: DA parts manuals and maintenance publications for radios AN/ARN-82 and AN/ARN-83 are in conflict regarding parts replacement at direct support level.

Discussion: The Maintenance Allocation Charts (MAC) in TM 11-5826-226-12 and TM 11-5826-225-12 authorize all repairs at direct support level for the AN/ARN-82/83 while parts manuals only authorize repair of certain easily accessible parts and replacement of some modules. It is normally easier to repair the "module" in the set than it is to replace it.

Observation: These conflicts require either a change to Parts Manuals TN 11-5826-226-35P & TM 11-5826-225-35P or the MAC in TM 11-5826-226-12 & TM 11-5826-225-12.

#### G. MEDICAL:

1. (U) Item: Flying hours of pilots.

Discussion: Several units had aviators flying in excess of 140 hours. This is in contravention of USARV policy and an invitation to aircraft accidents. The 140 hour policy is an interim attempt to hold pilot fatigue at a minimum. It is not, however, the optimum solution.

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Observation: Emphasis at all levels of command for controlling pilot fatigue must be placed on adherence to the 140 hour limit, until a better solution for controlling pilot fatigue can be found.

2. (U) Item: Psychiatric problems.

Discussion: Psychological problems, when aviators are involved, take on more than ordinary importance. Some of these require the services of a psychiatrist, preferably one experienced in aviation medicine. LTC O N Evans, MC FS, psychiatrist at the 8th Field Hospital, Nha Trang, is now available for consultations of this nature.

Observation: A qualified psychiatrist, who is also a flight surgeon, is now available to aviators of this command. In the future a flight surgeon psychiatrist should always be available in-country.

3. (U) Item: Shortages of Medical Equipment

Discussion: Some flight surgeons report shortages of medical equipment required for Medical Examinations for flying. Consequently, examinees are sometimes forced to spend several days reaching facilities with the proper equipment.

Observation: There is a requirement for more medical equipment (i.e., vision tester, EKG equipment) to conduct medical examinations for flying. Current MTOE's submitted by this Hq will alleviate this problem.

4. (U) Item: Nomex flight suit and fragmentation helmet (AFH-1).

Discussion: Neither the Nomex flight suit nor the large size fragmentation helmet AFH-1 has arrived in-country as of this date.

Observation: Until the introduction of this equipment, the risk of serious injury and possibly fatalities attributable to the lack of these items will remain.

5. (U) Item: Morphine survey.

Discussion: A survey of flight surgeons revealed overwhelming opposition to a proposal to supply aviators with morphine. The major problems this would entail were control of the morphine issue and instructing pilots in the use of the drug. It was felt that only under rare circumstances would the morphine be useful.

Observation: Morphine should only be issued under exceptional circumstances determined by competent medical authority.

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## SECTION II

### PART II

#### RECOMMENDATIONS

- A. PERSONNEL: NONE
- B. OPERATIONS: NONE
- C. TRAINING AND ORGANIZATION: NONE
- D. INTELLIGENCE: NONE
- E. LOGISTICS: NONE
- F. SIGNAL:

1. (U) There should be a minimum number of different keylists used for FM secure voice systems. It is recommended that the same key be used by all units within a Corp Tactical Zone to facilitate communication with aircraft operating throughout the Zone.

2. (U) Higher headquarters should attempt to determine and alleviate the shortage of trained repairmen and spare parts servicing the Radio Teletypewriter Sets AN/VSC-2s.

3. (U) Action must be initiated at CONUS stations to insure deploying Avionics Maintenance Detachments reach Vietnam with all required test equipment, shop facilities, and maintenance float items. Detachment TOE's should contain only common items of test equipment. Special tools and test equipment should only be authorized based upon Section III, "Allocation of Tools for Maintenance Functions" of the appropriate DA Technical Manual. TM's are issued as new equipment enters the inventory, if Section III of the TM automatically became the authority for the issue of special tools and test items this equipment would reach units long before an MTOE could be approved and implemented. Many Detachments are still using special equipment originally designed for now obsolete items.

4. (U) Action should be initiated to equip all US Army aircraft with KY-28 Voice Security Equipment. This would ensure voice communications security under all operational circumstances.

5. (U) Parts Manuals TM 11-5826-225-35P and TM 11-5826-226-35P should be changed to authorize all repairs to the AN/ARN-82/83 at the direct support level.



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G. MEDICAL:

1. (U) The 140 hours flying limit within any 30 day period should be strictly enforced while concurrently, consideration is given to other possible controls that would better accomplish its purposes.

2. (U) Pending approval of MTOE's, as a minimum, at least one medical detachment of each Combat Aviation Battalion should have all the equipment necessary to conduct medical examinations for flight personnel. This equipment should be issued by special authorization. Correspondence to this effect has been initiated by this headquarters and is currently in medical channels.

3. (U) Morphine should be issued to flight personnel only under circumstances judged exceptional by a flight surgeon or aviation medical officer. If this occurs, the issue must be controlled in accordance with AR 40-2 and USARV Reg 40-2 and reported to the Office of the USARV Flight Surgeon.

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as

*Eugene B. Conrad, Col*  
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- 1 - S-3 Organizational History File

Incl 1 Organization Chart

~~Incl 2 1st Avn Bde & Attachments~~ Withdrawn, Hqs, DA

~~Incl 3 Commander's Notes #17~~ Extracts included as Incl 3

~~Incl 4 Commander's Notes #18~~

Incl 5 Tactical Lessons Learned #6

# CONFIDENTIAL

AVHGC-DST (15 Feb 68) 1st Ind. (C)  
SUBJECT: Operational Report-Lessons Learned for Period Ending 31 January  
1968 (RCS CSFOR-65) UIC WDG 3AA (U)

HEADQUARTERS, US ARMY VIETNAM, APO San Francisco 96375 11 MAR 1968

✓TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT,  
APO 96558

Assistant Chief of Staff for Force Development, Department of the Army,  
Washington, D. C. 20310

1. (U) This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 January 1968 from Headquarters, 1st Aviation Brigade (DG3A).

2. (C) Pertinent comments follow:

a. Reference item concerning key lists for speech security equipment KY-28, page 9, paragraph F1; and page 13, paragraph F1. National Security Agency (NSA) restrictions specifying a maximum limit of 250 crypto devices to a single key list would preclude operating a net of the magnitude recommended. The problem area discussed is recognized, and USARV has expressed a requirement for relaxation of the NSA restrictions at a CINCPAC meeting in December 1967. NSA was represented at this meeting and indicated that a favorable response was probable. Resolution of this problem area and other factors incident to the influx of secure voice is under intensive study at this time, and guidance will be issued at the earliest possible date.

b. Reference item concerning maintenance of radio teletypewriter Set AN/VSC-2, page 10, paragraph F2; and page 13, paragraph F2: Concur. In response to the training requirements generated by the increasing deadline rate for the various AN/GRC-106 configurations (AN/VSC-2, AN/VSC-3, AN/GRC-122, and AN/GRC-142), USARV has organized a continuous remedial DS maintenance training program. The training will be hosted by the 79th Maintenance Battalion, Long Binh, starting in mid-March and continuing through December 1968. A three week class will be presented each month. Student input (maximum of eight per class) will be allocated to USARV and III MAF units with the priority of allocations to combat and combat support organizations. A message announcing the schedule of training and unit allocations has been sent to the field. With respect to that portion of the recommendation pertaining to repair parts, there is an overall shortage of repair parts for the AN/VSC-2 in Vietnam. This headquarters is aware of the problem and has requested assistance from CONUS (USARV msgs AVHGD-MD 93666 dtd 221002Z Dec 67 and 36212 120721Z Feb 68).

c. Reference item concerning equipment shortages in avionics maintenance activities, page 10, paragraph F3; and page 13, paragraph F3: Concur. It would be highly desirable for all Avionics Maintenance Detachments to be fully equipped with test equipment shop facilities, and maintenance float items. However, USARV's policy is that unit's deployment will not be delayed

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due to shortage of equipment. Every effort must be made in CONUS to fully equip all units prior to deployment. Also concur with recommendation that units be authorized only common test equipment by TOE and the special test equipment and tools be authorized based on Section III, "Allocation of Tools for Maintenance Functions" of the appropriate DA Technical Manual.

d. Reference item concerning KY-28 voice security equipment, page 10, paragraph F5; and page 13, paragraph F4: Concur. There is a three phase plan to equip all Army aircraft in USARV (except U-1A, U-6A, OH-13, and OH-23) with the KY-28.

e. Reference item concerning deployment of equipment to RVN without repair parts and test equipment, page 11, paragraph F6; page 11, paragraph F7; and page 13, paragraph F5: Concur. USARV has adopted the position that provisions of AR 700-70 would be met prior to the introduction of new avionics equipment into the theater. The deployment of the AN/APX-72 has been delayed for the above reason.

f. Reference item concerning morphine survey, page 12, paragraph G5; and page 14, paragraph G3: Concur. The use and control of morphine by non-medical personnel is completely unacceptable and can not be tolerated. Regulatory control must be maintained. This is best accomplished at the unit level medical service.

3. (U) A copy of this indorsement will be furnished to the reporting unit through channels.

FOR THE COMMANDER:

*C. S. Nakatsekasa*  
C. S. NAKATSEKASA  
Captain, AGC  
Assistant Adjutant General

Copies furnished:  
HQ, 1st Avn Bde

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GPOP-DT (15 Feb 68) (U) 2d Ind  
SUBJECT: Operational Report of HQ, 1st Avn Bde for Period Ending  
31 January 1968, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 18 APR 1968

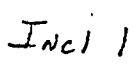
TO: Assistant Chief of Staff for Force Development, Department of the  
Army, Washington, D. C. 20310

This headquarters has evaluated subject report and forwarding indorsements and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:

*C.L. Shortt*  
C.L. SHORTT  
CPT, AGC  
Asst AG

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EXTRACTS FROM COMMANDER'S NOTES NO. 17 AND 18  
HEADQUARTERS, 1ST AVIATION BRIGADE  
(681235)

1. SAFETY

a. Crosswind Criteria for O-1 Aircraft.

(1) Recent increases in the number of O-1 aircraft accidents involving ground loops and loss of control on take off or landing in variable crosswind conditions indicate a need for establishing maximum crosswind component and gust spread criteria for O-1 operations.

(2) Accordingly, the following criteria are established:

Maximum Crosswind in Knots			Maximum Wind Velocity (No Crosswind)	Maximum Gust Spread
30°	60°	90°	25 Knots	10 Knots
15	10	8		

(3) Units operating O-1 aircraft will incorporate these criteria into standard operating procedures.

(4) When deviation from the above criteria is required by tactical necessity or for emergency reasons, commanders will select only the most experienced and qualified aviators to perform the mission.

b. Foreign Weapons. A recent shooting accident occurred in a billet area when a foreign make weapon (British Sten Gun) which was being cleaned accidentally discharged a burst of several rounds which hit and wounded an American in an adjoining billet. This incident brings to light two main points:

(1) There is a continuing requirement for training and periodic instruction on safety in handling and employing side arms and other weapons one is likely to be called upon to use. This should include periodic firing of weapons under controlled conditions, particularly for aircraft crew members.

(2) The only weapons authorized to be in an individual's possession are those authorized US Army weapons issued through the appropriate supply agency. Weapons of foreign make only require additional training and are a potential source of accident and trouble. Commanders must take necessary action to see that the above policy is carried out promptly and on a continuing basis.

c. Adherence to Mission Requirements.

(1) Review of recent accident experience reveals an increasing number of mishaps involving a deviation from the flight profile required by the mission.

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(a) The crew of a UH-1D on a routine passenger-hauling mission, flying at low level down a river, noted some activity on the river bank. The pilot reversed course to investigate and flew into the water in a steep diving turn. Five persons are still missing in this accident.

(b) An O-1 making rocket firing passes at sharks in the South China Sea flew into the water.

(c) An O-1 on a convoy cover mission deviated from the task of providing convoy cover to make some practice rocket firing runs on a sampan. The aircraft experienced a run-away propeller on the first dive which resulted in a forced landing and major damage.

(d) A UH-1D, on a flare-dropping mission, was involved in an accident after deviating from the flare-dropping mission to make door gunner firing passes.

(2) These are only a few of numerous incidents indicative of inadequate premission briefings establishing the nature and limits of each mission. It is not intended to restrict a commander's conduct of training, maintenance or other operational requirements. A mission directed to be flown at low level should be flown at low level. A convoy cover mission combined with practice rocket firing runs is not in itself necessarily out of line, provided it is planned for, specifically directed and executed in accordance with instructions received.

d. Aircraft Accidents Occurring from Loss of Rotor RPM.

(1) During the past nine months, the Brigade has lost an average of 1.77 UH-1C aircraft per month from loss of rotor RPM on take-off or while in tight steep turns at low level. Our losses have varied from 1 to 4 aircraft per month. The hover check is the best single test available to determine the machine's capability for lift-off under actual conditions. Commanders must insist on performance of the hover check before each flight. If the aircraft will not hover, then the gross weight must be reduced by eliminating unnecessary items. Only absolutely essential equipment and supplies can be carried.

(2) In several of the accidents, low rotor RPM has been induced in flight by executing steep, sharp turns. This maneuver, performed with a heavily loaded aircraft, can create conditions similar to those encountered when attempting to take off overloaded. For example, a gunship loaded to a gross weight of 9500 lbs in a 30 degree bank would experience an effective load of approximately 10,925 lbs. At this point an overload of approximately 1425 lbs would occur, resulting in loss of rotor RPM, altitude or both. If sufficient altitude is not available for recovery, the aircraft will crash. Aviators must avoid flight situations that induce critical overload conditions.

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e. Dust Suppression. Dust continues to be a severe operational hazard. Last dust season there were eight dust-related accidents resulting in five injuries and \$554,430.15 in material loss. Dust-induced accidents continue to occur. So far this dust season there have been five dust-related accidents, resulting in one life lost, three injuries and \$377,904.00 in material loss. Commanders must take all possible measures to preclude dust-induced accidents, such measures to include:

(1) Education of supported commanders to insure that sufficient priority is given to the use of dust palliatives and spreader equipment.

(2) Dust suppression measures included in the early planning for all airmobile operations.

(3) Training aircrews to deal with dusty conditions.

(4) Avoiding dusty areas whenever possible.

f. Use of Designated Landing Areas. A recent accident resulted in serious injuries and one fatality when a UH-1 went IFR in dust, snagged its skids on concertina wire and rolled over while attempting a take-off. The irony of the accident is that a suitable, designated, oiled landing pad had been constructed by the ground commander not more than 150' away from the area the aircraft was attempting to use.

g. Policing of Landing Areas. A recent loss of a UH-1 occurred as a result of a piece of canvas being blown into the tail rotor. House-keeping around a landing zone is a continuing task. Every effort will be exerted by supporting aviation elements in coordination with supported organizations to ensure proper policing of landing areas.

h. Use of Safety Belts/Safety Harnesses. An aircraft crewman was recently fatally injured as a result of falling from a helicopter. The crewman was not properly secured by a safety belt or gunner's harness. Common sense, as well as published directives, dictate greater respect for the hazards of riding in an open aircraft door. Several accidents recently have resulted in injury and death because individuals not secured to the ship were thrown from the aircraft and pinned beneath the wreckage. The key to elimination of this hazard is the aircraft commander, aided by the members of the crew. Such accidents are inexcusable and their prevention requires continuing positive command action, to include prompt disciplinary action when published directives are ignored.

i. Selection of Routes of Flight. There continues to be an unacceptable number of incidents where aircraft crews are observed conducting missions with apparent disregard for the safest routes and altitudes. The troops being supported, especially the human cargo on board, deserve better than lip service paid to the fundamentals of basic airmanship. Each commander is enjoined to take all necessary action to ensure that every aviator within his organization is properly indoctrinated and briefed before each mission with special emphasis on selection of the safest practicable flight routes and altitudes. At the conclusion of



his recent visit to Vietnam, our Chief of Staff, General Johnson, commented that some aviators are placing too much confidence in a machine. Take-offs and landings were being made in the aircraft in which he was riding which did not always take advantage of the most obstacle-free areas. Low level flight was accomplished when not required. If this impression was gained by General Johnson during a comparatively short visit made under what should have been nearly ideal circumstances, there is cause for command concern.

## 2. OPERATIONS

First Aid Training. First aid training for aircrews should be emphasized. Although med evac is not a primary function of 1st Aviation Brigade, Brigade does evacuate more casualties than Dust-Off does. Therefore, it is imperative that Brigade crewmembers know the basic essentials of first aid.

## 3. SURGEON

a. Flying in the U-21 with a Cold. It has been observed since the arrival of the U-21 in Vietnam that there has been an unusually high rate of ear problems associated with altitude changes among both aircrew members and passengers flying with a cold in this aircraft. It is apparently the more rapid altitude change, especially during let-down, that is causing this problem. While an individual may get away with flying with a cold in aircraft that are used at lower altitudes and which make less rapid rates of descent, they are less likely to get away with it in the U-21. The injuries observed have been hemorrhages into the middle ear and rupture of the eardrum, both of which can cause serious disability, especially if infection sets in. Proper discipline and common sense can eliminate this problem. Aircrew members should not be flying such aircraft when they are unable to pop their ears easily to equilibrate pressure. Also, passengers should be warned of this danger. Less rapid rates of descent may prevent the problem when it is necessary to fly passengers with a cold in the U-21. If passengers are adequately forewarned, they may be able to arm themselves with medications which can prevent these unnecessary ear injuries.

b. Proper Utilization of Chest and Back Plates. It has been reported that some units are trying to solve the problem of the shortage of personal protective armor by supplying back plates to pilots to be worn as chest plates. This is a potentially dangerous practice because the back plate is not designed for use as a chest plate and such use could result in serious injuries to the wearer during an aircraft crash. Units should be warned not to make this error in the utilization of this item of protective equipment.

c. Use of Standard Combat Boots Instead of Jungle Boots Among Aircrewmembers. It is felt that there are certain advantages in the wearing of the standard leather combat boots over the wearing of the jungle boot by aircrewmembers. The leather boot is more capable of providing

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protection to the foot and ankle from injuries resulting from an aircraft crash or from small arms fire. Also, the nylon reinforcements in the jungle boot can cause serious burns in the case of a post-crash fire. Actual data to support these beliefs are very limited and an effort is being made to obtain more. Meanwhile, it is the position of both USABAAR and of USARV to encourage the use of the standard leather combat boot among aircrewmembers during flight in preference to the jungle boot. The stockage level of leather boots in-country is low. Therefore, we must get our requirements in to supply the demand data to the logisticians.

d. Protection Against Hearing Loss. The noise levels produced by the CH-47 are high enough to produce serious and permanent hearing loss, especially among maintenance personnel. A study was conducted in RVN which showed that the crewmembers next to the M-21 minigun weapons system can suffer serious hearing loss over a period of time if they do not wear ear plugs in addition to their helmets. Passengers sitting in the rear of the OH-6 can experience hearing loss due to the noise of the transmission whine, if they are not wearing ear plugs. In each of these situations and in any other situations in which high noise levels are suspected, commanders should emphasize that the use of ear plugs is necessary and will be required.

#### 4. SIGNAL

a. SOI's. SOI's are still being lost by misplacing them. Latest example: an SOI left in a flak jacket. SOI disappeared from the jacket pocket. They must be on a chain or cord around the neck.

#### b. Approved Aircraft Electronic Configurations

(1) The imminent installation of KY-28 secure voice equipment in the Brigade aircraft will require all units to remove the "homemade" wiring and other rigs from the aircraft and adhere to standard configurations. This is an absolute necessity to preclude compromise of classified transmissions. USARV Confidential message 87076, dated 25 Nov 67, was indorsed to the Groups and separate Battalions on 1 Dec 67. Every commander, pilot, crewchief and maintenance man should have full knowledge of the contents of this message.

(2) Operators and maintenance personnel working with the KY-28 must have a confidential clearance. Those having access to the key list must have a secret clearance because the key list is secret. This requires action to be taken immediately to get clearance for your avionics linemen and other personnel who will be working with this equipment.

#### 5. COMMAND EMPHASIS TOPICS

##### a. Brigade Policy

(1) O-1 aircraft will not be used for direct fire support!!  
Rockets will be used for target marking only. Despite the clarity of a recent message (Confidential, AVBA-C 172-C-67, subject: Utilization of O-1 Aircraft, dated 13 December 1967) on this subject, OPREP-5's almost daily report violations of this policy. Repeat: O-1 aircraft will not be used for direct fire support. Although it should not be necessary to note this, machine guns are not authorized for mounting on O-1's under any circumstances. A few examples of misuse of O-1 aircraft have been selected from the twenty-two incidents that have been documented in the past three months:

(a) An O-1 pilot on an artillery registration and visual reconnaissance mission deviated from his primary mission to make a low level firing pass at three cows. The observer fired his Thompson sub-machine gun out of the rear window. While making a low level turn to quickly return to the area to engage a man who ran from the vicinity of the cows, the O-1 stalled into the trees on the side of a hill. The occupants received non-disabling injuries and the O-1 was destroyed.

(b) Another incident (taken from observer's eyewitness statements) describes an O-1 pilot who attacked the enemy with his side arm while flying low level.

(c) Another O-1 pilot attacked an enemy weapon position with wing-mounted rockets and a wing-mounted M-60 machine gun.

#### 6. CHAPLAIN

Reports have reached the Brigade Chaplain that some of the chaplains of the Brigade are functioning as door gunners on helicopters. This practice is a violation of the Geneva Convention and must not be permitted to continue.

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DEPARTMENT OF THE ARMY  
HEADQUARTERS, 1ST AVIATION BRIGADE  
APO San Francisco 96384  
"NGUY-HIEM"

AVBA

15 November 1967

SUBJECT: Tactical Lessons Learned No 6

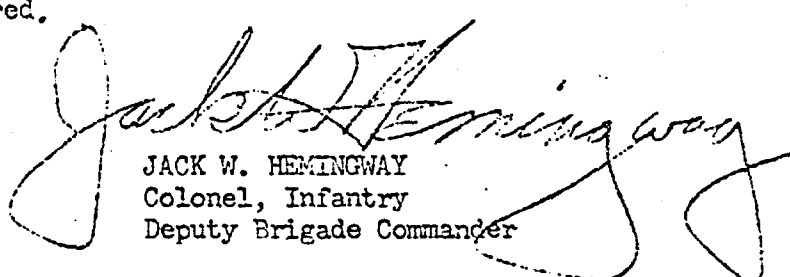
TO: SEE DISTRIBUTION

1. Attached is the sixth in a series of Tactical Lessons Learned. The items contained therein were extracted from unit Operational Report-Lessons Learned for the quarter 1 May - 31 July 1967.

2. It is apparent from the repetitive nature of many reported incidents, such as individual weapons being lost from helicopters, dropped sling loads, confusion in pick-up zones etc, that full value of previous lessons learned of all types is not being received. We must not only share our experiences with others, but accept and benefit from their experiences as well.

3. The items contained in tactical Lessons Learned No 6 are unclassified so widest dissemination and use can be made.

4. Units desiring copies of Tactical Lessons Learned one through five may request them from this headquarters, ATTN: AVBA-C, stating the copy and numbers desired.

  
JACK W. HEMINGWAY  
Colonel, Infantry  
Deputy Brigade Commander

DISTRIBUTION

A  
Plus Special

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Incl 5

# 1st Aviation Brigade Tactical Lessons Learned No 6

## 1. ITEM: The "Skunk Hunt"

DISCUSSION: The simultaneous use of armed helicopters and fighter aircraft is a very effective tactic against known or suspected enemy troop concentrations or locations. Working in close coordination with a FAC, the air mission commander or armed platoon commander can reconnoiter suspected target areas. Once a target is decided upon and friendly positions are identified, the firepower available can be combined or effectively alternated to confuse, disrupt, contain, and destroy the enemy. It is essential that common communications exist between the supported ground commander and the mutually supporting air elements.

OBSERVATION: The combined use of tactical air and armed helicopters in "skunk hunt" operations should be used whenever the tactical situation and resources will permit. Highly imaginative and varied use of this tactic will reap productive results.

## 2. ITEM: Aerial Delivered Smoke Screens for Combat Operations

DISCUSSION: The smoke pot, floating type, FSN 1365-598-5220-K867 used in conjunction with an integral smoke generator mounted on a UH-1 helicopter is very effective in producing long lasting smoke screens to screen combat assaults and extractions from enemy observation and fire. The fuze pin is attached to one of the tie-down rings on the helicopter floor by eight feet of heavy duty safety wire. As the helicopter lays a smoke screen into the wind, along the downwind side of an LZ or FZ, the smoke pots are thrown overboard at pre-planned locations. After leaving the helicopter, the pots arm and generate smoke for 12-15 minutes. By attaching the safety wire directly to the fuze pin, the safety wire acts as an eight foot arming lanyard and minimizes the possibility of the smoke pots igniting inside the aircraft. Using this method, units have the capability of laying a long lasting smoke screen with just one low level pass. In six months of experimental use of smoke pots, no troop carriers sustained bullet damage from smoke protected flanks on combat assaults or extractions.

OBSERVATION: This method of smoke screen delivery results in a thick, long lasting protective screen on one low level pass, minimizes exposure time of the smoke laying helicopter and can effectively obscure enemy observation and fire during combat operations. Care must be exercised to insure that all safety devices on the smoke pot are initiated after the pot is thrown overboard to preclude premature generation of smoke inside the helicopter.

## 3. ITEM: Air Delivery of Chemical Agents.

DISCUSSION: Through the coordinated efforts of an Air Force FAC, a light fire team, a CH-47, and a ground crew trained in the handling of certain chemical agents, an effective aerial delivery technique for the tactical employment of chemical agents has been developed. The

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## 1st Aviation Brigade Tactical Lessons Learned No 6

FAC provides wind data in the target area, marks the drop zone, and visually vectors the CH-47 over the drop zone. The light fire team provides protection for the FAC and CH-47, verifies the ignition of each drum of chemical agent, and fires on any duds to detonate them. The ground crew trained in handling chemical agents sets fuzes on a CH-47 load of drums and provides the manpower to roll the drums out the tailgate. All personnel aboard the CH-47 have protective masks in their possession and one pilot in the cockpit wears the protective mask throughout the operation. Depending on terrain and weather conditions, the drop altitude may vary up to 3500 feet absolute, but should be above effective range of small arms fire. Once the altitude for the drop is determined, this information and elevation of the drop zone is given to the ground crew so that proper settings can be placed on the drum fuzes to provide drum detonation at approximately 100 feet above the ground. A proper visual sight picture appears to the CH-47 aircraft commander when the target area is aligned between the pedal controls. Twenty seconds prior to drop time, the red troop warning light is turned on to alert the ground crew. When over target the aircraft commander turns on the green troop warning light, rings the troop alarm bell, and the ground crew rolls the drums out the tailgate. This visual sight method has proven 85-90% effective. A more accurate method of delivery is attained by use of radar vector and is particularly useful in marginal or IFR weather conditions. However, escort or observation aircraft should be in the target area to verify the effectiveness of the drop and detonate or cause to be detonated any drums that did not ignite.

OBSERVATION: Application of imagination and Army aviation assets has given the ground commander another weapon in his arsenal to deny specific areas to the enemy and enhance the success of ground operations. Although a relatively simple procedure, this technique requires detailed planning and coordination and can only be accomplished after clearance has been granted from the appropriate agencies.

### 4. ITEM: Selection and Use of Alternate Air Mission Commanders for Airmobile Operations.

DISCUSSION: With the increasing frequency and complexity of airmobile operations, several units have indicated a greater reliance on the selection and use of an alternate air mission commander on multi-company combat assaults. As multiple assaults, supported by the fires of several agencies, under the control of one air mission commander become more common, it may be necessary to designate an alternate AMC to be responsible for a portion of the myriad of details to enhance success. Recently, an air mission commander controlled and monitored the air assault phases of an operation while the alternate AMC, airborne in a C&C equipped aircraft, organized and supervised downed aircraft rescue and recovery operations without interruption of the tactical operation. On other occasions, the alternate

# 1st Aviation Brigade Tactical Lessons Learned No 6

AMCs, thoroughly knowledgeable of the ground tactical plan and the air-mobile phase of the operation, have been able to assume command when the air mission commanders became incapacitated due to hostile fire or aircraft maintenance difficulties. Another successful use of an alternate AMC is to control and monitor the preparatory fires of armed helicopters on multiple LZ's, while the air mission commander controls and monitors progress of the troop carriers.

OBSERVATION: As alternate command posts and command groups are designated for ground tactical operations, so does the need exist for the selection and use of an alternate air mission commander, to include a successive chain of command to allow platoon or section commanders to assume command in an emergency situation.

## 5. ITEM: Battlefield Illumination for Combat Assaults.

DISCUSSION: The most commonly used device is the flare, either airdropped or fired by artillery or mortars. Illumination must be properly timed to prevent compromise of the actual LZ and still provide effective illumination during the landing phase. Recent night operations indicate a favorable time to initiate illumination is two minutes prior to touchdown in the LZ. Accuracy of flare placement is essential. In the case of artillery or mortar fired illumination, by placing flares on the side of the LZ farthest from the tubes allows the greatest safety factor. Projectiles pass high over the LZ and, after ejecting the flare cannister, fall away from the LZ. In all cases, flares should be placed on the downwind end on one side of the LZ. This places illumination to the rear of and to the side of the landing helicopters, permitting pilots to use their shadows to judge height and preventing temporary blindness from the glare. This optimum location also prevents the parachute flares from becoming hazards to flight.

OBSERVATION: Battlefield illumination must be carefully planned for combat assaults. It is extremely important that care be taken to protect night vision, especially in formations. Ill timed or poorly placed illumination may jeopardize the safe and successful accomplishment of the mission.

## 6. ITEM: Marking of Landing Zones for Night Combat Assaults.

DISCUSSION: Specific placement of the lead aircraft in an LZ during night combat assaults may be required to enhance the ground tactical plan. If battlefield illumination is properly placed and timed, all aviators will see the approximate LZ location. Provided the illumination is continuous, green or yellow smoke has been found to clearly show up as a mark for the desired touchdown point. Under no illumination conditions, the mark can be made by firing a flare pistol from an armed helicopter or C&C aircraft after the troop carriers have been vectored onto final approach.

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1st Aviation Brigade Tactical Lessons Learned No 6

OBSERVATION: Daylight combat assault requirements and techniques can be performed on a routine basis at night if the details of all special considerations are evaluated. There is no substitute for sound and deliberate planning in night operations.

7. ITEM: Troop Briefing for Night Combat Assaults.

DISCUSSION: Special consideration must be given to briefing troops on notification to disembark. Troops may attempt to exit the aircraft while either still high above the ground or while hovering to clear obstacles such as dikes, ditches, streams, shrubbery, or bomb craters. Troops must be cautioned to await the signal from the aircraft commander before exiting the aircraft.

OBSERVATION: Addition of this item to night operations checklists will enhance safe arrival of combat troops in landing zones.

8. ITEM: The Armed Helicopter Night Standby Role.

DISCUSSION: Throughout the country, armed helicopters are placed on a 24 hour standby role to react rapidly to tactical requirements for instant firepower. Effective employment of armed helicopters on ASAP fire missions can only be realized through positive control. Three paramount considerations are communications, positive identification of friendly forces locations, and clearance from the proper agency to fire. When working with non-English speaking ground forces, it is imperative to have an observer/interpreter aboard each fire team to insure proper flow of communications and to prevent any misunderstanding on clearances to fire or targets to engage. Identification of friendly positions can be positive provided prior arrangements for an identification system are established. For example, the use of a star cluster or other pyrotechnic visible at night to identify general locations is effective. To positively locate exact positions a system of "flashlights on call" is very effective and will enable fire to be delivered as close as 50 meters to friendly positions. Identification systems, such as these, should be varied as required to prevent compromise.

OBSERVATION: There is no substitute for immediately available observed direct fire support. Armed helicopters offer the ground commander this potential. However, effective employment at night can only be gained through careful planning of special night considerations and positive control.

9. ITEM: Night Extraction of Small Patrols.

DISCUSSION: A technique employed successfully at night to extract small patrols by a single helicopter involves a "talk-down GCA" type approach. After positive radio communications is established and the direction of landing is determined, the aviator turns downwind to



1st Aviation Brigade Tactical Lessons Learned No 6

the PZ. Through a combined use of aircraft position lights and visual sightings of the relative positions of the lights, the aviator and patrol leader can position the helicopter in the successive stages of downwind, base leg, and final approach of a normal traffic pattern landing. For example, the patrol leader, positioned at the touchdown point facing downwind, can direct the aircraft on downwind leg to execute a left or right turn onto a base leg. When he sees a rectangle of four lights, two red and two green, the aircraft is in position to turn onto final approach. After rolling out on final approach heading, the touchdown spot in the PZ can be pinpointed by flare, flashlight or other visual means. Then the aircraft immediately descends for pickup.

OBSERVATION: This type approach is only one method of successfully extracting small patrols from remote areas. Many variations of the basic technique can be developed. This method is particularly useful on unplanned or emergency extractions where aviator and patrol leader have not had prior liaison or communications. The aviator gives a series of commands over the radio. The responses by the patrol leader accomplish the various phases of the approach.

10. ITEM: Considerations for Twilight Combat Operations.

DISCUSSION: Although the hours of twilight may be of significance to the ground tactical plan, from an aviation viewpoint twilight offers distinct disadvantages. Since the night is said to belong to the enemy, his activity significantly increases during twilight. Troop insertions or extractions are more subject to enemy counter activity. Should an aircraft be forced down at dusk, extra troops may be required to secure the area. Inserting additional forces at twilight or night is quite involved, demands more deliberate planning, is much more hazardous in comparison to daylight operations, and may seriously hamper the original mission.

OBSERVATION: Provided the ground tactical plan is not jeopardized, troop insertions or extractions should be planned for completion at least one hour before darkness. Plans must include the additional contingency of security forces for downed aircraft rescue, security and recovery.

11. ITEM: Accuracy in Reporting Enemy Targets.

DISCUSSION: Armed helicopter fire team leaders are experiencing difficulty in locating enemy targets reported by troop carrier aviators. In their haste to report receiving hostile fire, aviators often greatly misjudge range and azimuth estimates. Other simply do not know the location from which the fire came and make gross errors in judgment.

OBSERVATION: Increased emphasis and training must be placed

1st Aviation Brigade Tactical Lessons Learned No 6

on the importance of accurately reporting target locations or areas from which fire is received. Only then can armed helicopters bring their superior firepower to bear in support of troop carriers. When aviation units are attached to other than parent headquarters for combat operations, it is imperative that the procedure used for reporting targets be clearly defined in the operations order or aviator briefing.

12. ITEM: Armed Helicopter Support for CH-47 Operations.

DISCUSSION: A continuing requirement exists to provide light fire team escort for CH-47 operations, when such operations are into areas in which hostile fire is known or suspected, when operating at twilight, or on single ship missions over remote, densely jungled areas. When these requirements exist, planning must include light fire team availability. Escort can be accomplished by a number of methods. One successful method is to plan these type operations after the release of fire teams from combat assaults.

OBSERVATION: The CH-47 and crew are too valuable an asset to lose through improper planning or lack of armed escort. Fire team availability and utilization should be controlled at Battalion Operations Centers and/or AAE's and workable solutions agreed to by the supported unit commanders, taking cognizance of all mission requirements to include escort for assault support helicopters.

13. ITEM: Pick-up Zone Organization and Coordination.

DISCUSSION: Since the very beginning of airmobile assault operations in Vietnam, units have complained of inadequate organization and coordination of the PZ. Such things as insufficient time allotted in the planning phase for PZ organization, improper organization of troop and cargo loads at the PZ, lack of interpreters/observers when working with non-English speaking forces, commonly occur.

OBSERVATION: Preparation of the PZ is the supported unit commander's responsibility. However, aviation units cannot assume that this very important phase of assault operations will be properly planned by the responsible personnel or efficiently executed. Aviation units must continually educate ground units in the fundamentals of airmobility and assist them in their responsibilities to the extent possible. Additionally, regardless of the degree of ground unit planning, aviation units should develop contingency plans for each operation, whether preplanned or immediate, to assure success of all phases of the operation.

14. ITEM: Sling Load Operations.

DISCUSSION: Since the very beginning of sling load operations in Vietnam, units have complained of the ground units' failure to recognize their responsibility to properly prepare cargo for air movement.

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This problem is more prevalent among ARVN units, Special Forces detachments and FVMAF forces but exists with US units also. Repeatedly aviation units have furnished federal stock numbers for slings and rigging equipment, requesting units initiate supply action to obtain the equipment. In some cases this liaison has produced favorable results, but in the majority of cases units have either failed to requisition the equipment or take follow up action required. Many studies have been made on this problem resulting in logistical command action to army procurement agencies in CONUS to increase stocks in quantity and quality. Nevertheless aviation units often will be required to provide slings and rigging equipment and personnel to prepare or check loads.

OBSERVATION: This problem will exist for the duration of operations in Vietnam. Assault support companies are charged with the responsibility of support to ground units. The term support must be expanded to include not only aerial delivery of cargo, but continual support in providing training to ground units in rigging operations, providing the necessary equipment to move supplies, and providing personnel to prepare loads when required and in all cases to check load rigging prior to pickup. Command action will continue to alleviate the problem through "front door" channels. Cheerful, willing, assistance, as mentioned above, must continue as a "back door" channel to get the job done.

15. ITEM: Control of Aircraft in Airmobile Operations.

DISCUSSION: Frequently unidentified aircraft, not involved in a particular airmobile operation, will be found operating in the general area, unaware of the operation in progress. Often times, CH-47 aircraft supporting the same airmobile operation have disrupted assault landings because of unexpected arrivals into the same LZ.

OBSERVATION: All army aircraft supporting an airmobile operation and using the same or closely adjacent PZ/s and LZ/s should be placed under the operational control of the air mission commander for command and control. All single ship aircraft and at least one in a formation of aircraft must monitor the guard channel to heed broadcast warnings of interference with airmobile operations in progress. Through proper coordination with flight control agencies and commanders responsible for areas of operations, aviators can be advised to remain clear of an operational area during its timeframe. This problem can generally be completely overcome by careful prior planning.

16. ITEM. Airmobile Operations in Proximity of Large Airfields.

DISCUSSION: Frequently operational areas of intense airmobile activity are within the air traffic controlled airspace of large airfields. Normal traffic patterns, terminal approaches, and radar vectors from terminal navigational aids cause additional flight hazards in the

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area and could seriously hamper the success of airmobile operations.

OBSERVATION: Coordination with airfield tower, air traffic control personnel, and base operations officers must be accomplished to prevent interference with operations, both airmobile and routine airport traffic, and to reduce inflight hazards.

17. ITEM: Dangerous Actions by Passengers Aboard Aircraft.

DISCUSSION: On recent occasions, without warning, troops aboard helicopters have fired individual weapons or thrown grenades or other items. This practice is very dangerous to all aboard the aircraft and the aircraft itself.

OBSERVATION: Ground commanders and liaison officers must continually emphasize the danger involved in acts of this nature. In the final analysis, however, it is the responsibility of the aircraft commander to prevent these dangerous acts by properly briefing passengers and crews.

18. ITEM: Requests for Backup Helicopter Support.

DISCUSSION: Supported units frequently request more helicopters than actually required for the purpose of providing back up support on a standby basis.

OBSERVATION: Aviation liaison officers, battalion and company operations personnel, and AAE's must continually conduct detailed screening of mission requests, identifying unnecessary or excess requirements for support. Again, education of supported units is a key to reducing this type of wasted assets. The onus of providing this education is on the aviation units.

19. ITEM: Heavy Packs Carried by Assault Troops.

DISCUSSION: Some ground units habitually commit troops carrying only minimum essential ammunition, weapons, water and rations and rely on aerial resupply or extraction at the end of the day. Other units commit their troops carrying heavy packs with enough supplies to conduct extended operations. Other units unnecessarily load down their assault troops with heavy packs and still get resupplied by air. The tactical situation and extent of operation may govern the load carried by assault troops. However, aviation units should advise the ground commander to consider reducing individual loads when obvious waste of airlift capability is apparent.

OBSERVATION: Aviation personnel should be alert to opportunities to deliver greater combat strengths by saving on the weight of non-essential items accompanying air assault forces.

20. ITEM: Separation of Resupply Areas for Medium and Heavy helicopters and Other Aircraft.

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DISCUSSION: Because of excessive wind created by the rotor blast of CH-47 and CH-54 helicopters, it is desirable to separate their resupply area from aircraft of smaller cargo capacity, such as the UH-1 aircraft. Recent experiences involving UH-1 blade flexes into tail booms, when working the same area as the CH-47, are costly and dangerous. Other hazards include damage or unsafe conditions resulting from turbulence, blown debris or sand.

OBSERVATION: It is vitally important to provide separate areas for these aircraft to reduce hazards, damage and needless waste.

## 21. ITEM: Liaison Between Aviation Units.

DISCUSSION: Recently brigade size ground units with organic/attached aviation companies came under operational control of division size units. On numerous occasions aircraft of the 1st Aviation Brigade DS company were provided to these ground brigades to augment their aviation resources for combat assaults and other troop movements. A difference in planning procedures, employment policies, terminology, tactics and techniques was encountered causing considerable difficulty initially.

OBSERVATION: Direct, responsive and aggressive liaison must be made by units of the 1st Aviation Brigade with all other aviation units providing support in an area of operations. This will eliminate procedural and operational difficulties arising from the variations in methods of operation.

## 22. ITEM: Planning Consideration-Monsoon Weather.

DISCUSSION: Monsoon weather, characterized by early morning low ceilings, poor visibility, and often times fog or precipitation, occurs approximately 6 months of the year in all areas of Vietnam. Ground tactical units continue to plan airmobile operations when forecast weather is for marginal conditions. Lifts scheduled for early LZ times have been delayed because of actual weather conditions closely approximating forecast weather. Often lifts were delayed to mid-morning, early afternoon, or eventually cancelled because of weather or other support commitments of the aviation unit. Some operations already in progress had to be delayed or cancelled because of adverse weather conditions in LZ areas, leaving an incomplete or ineffective fighting force, often without the proper command element, isolated for long periods of time. Not only are tactical operations impaired, but often result in aviation and ground units reverting to immediate standby for extended

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periods. In other cases, ground units lost the aviation support due to other operational commitments of the aviation units, resulting in tactical emergency situations creating confusion and ultimate misutilization of aviation assets.

OBSERVATION: Marginal weather conditions during the monsoon season are a primary planning consideration for airmobile operations. Aviation units must continually advise the supported unit on weather delay planning with respect to the time frame the aviation assets are available. Weather planning should include details for successive weather delays, to include the time of the last acceptable weather delay beyond which the operation can not be successfully completed, not only from a ground unit point of view but also from the aviation unit aspect. The use of weather recon aircraft ahead of the main lift force is advisable.

### 23. ITEM: UH-1H Lift Capabilities and Overstress.

DISCUSSION: The introduction of the UH-1H helicopter with the L-13 engine has substantially increased the lift capability for assault helicopter companies in areas of higher density altitude. This improved lift capability has given units the capability to exceed maximum gross weight without a corresponding loss in RPM.

OBSERVATION: Although combat operations are enhanced by use of UH-1H aircraft, aviators must continue to carefully calculate loads prior to take off to prevent exceeding maximum gross weight for the aircraft.

### 24. ITEM: Use of Delayed Artillery.

DISCUSSION: During the conduct of aerial observed artillery strikes, it has been observed that the enemy initially seeks cover in bunkers, etc., but will leave his protective covering as soon as the observation aircraft leaves the immediate vicinity.

OBSERVATION: In all probability, artillery strikes against fortified positions will leave some enemy alive. An effective method of obtaining greater neutralization is by the delay method of artillery delivery. After completing initial strikes on the target, the artillery battery loads VT ammunition and awaits a fire command. The O-1 departs the area temporarily, feigning completion of the mission. As the remaining enemy emerge from their covered positions, the command to fire is given and in all probability the enemy will be caught in the open and suffer additional casualties.

### 25. ITEM: Single Ship LZ Planning Considerations.

DISCUSSION: Combat assaults often are planned in areas where

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only small one ship LZ's are available or suitable for the tactical situation. Consideration must be given to possible changes in plans required by situations in which heavy enemy fire precludes further use, and to alternate courses of action in the event the LZ becomes blocked by downed aircraft. Alternate courses of action should include the selection of alternate LZs, attempts at troop extraction, continuation of the operation regardless of increased risk, and delays in operations until supporting fires can render the LZ secure enough to continue the operation. Supporting fires must be preplanned and prepared to support all alternate courses of action.

OBSERVATION: Aviation units must advise the ground units of the added hazards inherent in the use of single ship LZ's and develop mutually agreed upon alternate courses of action.

## 26. ITEM: Suppressive Fire by Ground Units in Landing Zones.

DISCUSSION: On multiple lift combat assaults, aviation units can effectively coordinate and provide suppressive fire support prior to and during the initial assault landing. On subsequent lifts, fires from helicopters are restricted by the presence of friendly forces in the LZ. Restrictions to fire are particularly critical after the first lift and remain critical until a sizeable force is assembled in the LZ to initiate the ground tactical plan.

OBSERVATION: By carefully pre-planned coordination, ground forces in the LZ can direct a concentrated volume of fire toward the perimeter of the LZ during the approach and lift-off of subsequent lifts to suppress hostile fire.

## 27. ITEM: Enemy "Baiting" Ambush Technique.

DISCUSSION: Recently on a combat assault, several weapons were spotted from the air lying in an open field near the LZ, but too distant for ground troops to react to quickly. Aircraft were sent back to the LZ to pick up troops to recover the weapons. As the aircraft landed near the weapons and troops disembarked, the enemy hit with a heavy volume of fire, inflicting heavy casualties and damage to equipment.

OBSERVATION: The weapons had obviously been placed in such manner to attract attention from the air, as bait for an ambush. When situations of this nature occur, recovery of enemy equipment or personnel must be a planned operation as all combat assault operations are planned, to include the full use of supporting fires.

## 28. ITEM: Reporting Unusual Activities.

DISCUSSION: A continuing need exists for aviators to daily report all unusual activities observed from the air. 65-70% of all

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new information is gained from aerial observation. Insignificant incidents or activities from the aviator's point of view may well be important and significant intelligence data. One incident alone may be of no apparent significance, but when added to other data may present the commander with valuable information.

OBSERVATION: Unit commanders must continually stress the importance of reporting daily all unusual incidents or activities observed. An effective intelligence program at unit level enhances the command wide intelligence effort. Greater emphasis should be placed on the use of daily debriefings of all crews by unit intelligence personnel.



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